

**IN THE CLAIMS:**

Please delete claims 1-11 and insert new claims 12-28.

Claims 1-11 (Canceled)

12. (New) A method for controlling transmission power in a radio system having a transmitting end and a receiving end, the method comprising:

transmitting a digital signal from the transmitting end to the receiving end;

receiving said digital signal at the receiving end;

setting an initial value of the transmission power so that no pseudo errors are detected, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error nearly occurred;

monitoring pseudo error occurrence in the received signal at the receiving end;

decreasing the transmission power gradually from the initial value at the transmission end when the pseudo error occurrence does not fulfill a predetermined condition; and

increasing the transmission power by a predetermined amount when the pseudo error occurrence fulfills the predetermined condition.

13. (New) A method as claimed in claim 12, wherein the predetermined condition comprises detecting the pseudo error.

14. (New) A method as claimed in claim 12, wherein the predetermined condition comprises detecting a second pseudo error within a predetermined time interval after the last pseudo error.

15. (New) A method as claimed in claim 12, wherein the predetermined condition comprises detecting a predetermined number of pseudo errors within a predetermined time interval.

16. (New) A method as claimed in claim 12, wherein the transmission power is increased immediately when the pseudo error is detected.

17. (New) A method as claimed in claim 12, wherein the transmission power is decreased in predetermined steps for a predetermined time period at each step.

18. (New) A method as claimed in claim 17, wherein a predetermined step is 1 dB.

19. (New) A method as claimed in claim 12, wherein the method further comprises

(a) adjusting the transmission power after the set-up of the radio system to the initial value high enough so that no pseudo errors are detected at the receiving end;

(b) decreasing the transmission power until a first pseudo error is detected;

(c) increasing the transmission power in response to the detected pseudo error; and  
(d) jumping to phase (b) if no pseudo errors are detected during a predetermined time period after the transmission power has been increased in phase (c).

20. (New) A method as claimed in claim 12, wherein the predetermined amount for increasing the transmission power is 1 or 2 dB.

21. (New) A method as claimed in claim 12, wherein the method further comprises

using forward error correction (FEC) in the transmitted signal;  
decoding the signal at the receiving end by means of a FEC decoder; and  
interpreting the corrections made by the FEC decoder as pseudo errors.

22. (New) A method as claimed in claim 12, wherein the method further comprises using at the receiving end a demodulator provided with a first set of thresholds for making a decision on a received symbol and a second set of thresholds for making a decision on whether the pseudo error has occurred.

23. (New) A method as claimed in claim 12, wherein the method further comprises

monitoring the rate of actual errors at the receiving end; and

increasing the transmission power temporarily to the maximum transmission power when a predetermined error rate threshold is exceeded.

24. (New) A radio system including

at a receiving end, first means adapted to monitor pseudo error occurrence in a received signal and to produce a control signal indicating when pseudo errors are detected and when the pseudo error occurrence is below a predetermined condition, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error nearly occurred, and

at a transmitting end, second means for adjusting transmission power responsive to said control signal by decreasing the transmission power when the pseudo error occurrence does not fulfill the predetermined condition and by increasing the transmission power when the pseudo error occurrence fulfills the predetermined condition.

25. (New) A radio system as claimed in claim 24, wherein said first means include a FEC decoder for decoding a FEC coded signal and for detecting pseudo errors.

26. (New) A radio system as claimed in claim 24, wherein said first means include a demodulator provided with a first set of thresholds for making a decision on a received

symbol and a second set of thresholds for making a decision on whether the pseudo error has occurred.

27. (New) A radio receiver configured to monitor pseudo error occurrence in a received signal and to produce a control signal indicating when pseudo errors are detected and when the pseudo error occurrence is below a predetermined condition, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error nearly occurred.

28. (New) A radio transmitter configured to adjust transmission power responsive to a control signal, the control signal indicating when pseudo errors are detected in a receiver and when pseudo error occurrence in the receiver is below a predetermined condition, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error nearly occurred, by decreasing the transmission power when the pseudo error occurrence does not fulfil the predetermined condition and by increasing the transmission power when the pseudo error occurrence fulfils the predetermined condition.